GROUND WATER DISCHARGE PERMIT - RENEWAL AND MODIFICATION
EXISTING DAIRY FACILITY with a LAND APPLICATION AREA
Cheyenne Dairies I and III, DP-677

I. INTRODUCTION AND SUMMARY

The New Mexico Environment Department (NMED) issues this Discharge Permit Renewal and Modification (Discharge Permit), DP-677, to David Hoekstra (permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978, §§ 74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Regulations, 20.6.2 and 20.6.6 NMAC.

NMED's purpose in issuing this Discharge Permit is to control the discharge of water contaminants from Cheyenne Dairies I and III (dairy facility) for the protection of ground water and those segments of surface water gaining from ground water inflow, for present and potential future use as domestic and agricultural water supply and other uses, and to protect public health.

The activities which produce the discharge, the location of the discharge, and the quantity, quality and flow characteristics of the discharge are briefly described as follows:

A maximum daily discharge volume of 180,000 gallons per day (gpd) of wastewater may be discharged from the production area. Wastewater flows from Cheyenne I Parlor to a concrete sump and from Cheyenne III Parlor to a concrete sump. Wastewater is pumped from the two sumps to a third concrete sump and is pumped through a solids screen separator into one of two synthetically lined solids settling impoundments which flow into the north and south synthetically lined wastewater impoundments for storage. Wastewater is land applied by center pivot and linear sprinkler irrigation to up to 440 acres of irrigated cropland under cultivation. The modification consists of increasing the land application area from 340 to 440 acres. The discharge contains water contaminants or toxic pollutants which may be elevated above the standards of Section 20.6.2.3103 NMAC.

The dairy facility is located at 178 East Cheyenne Road, approximately 2.5 miles west of Dexter, in Sections 3 and 4, T13S, R25E and Section 34 T12S, R25E, Chavez County. Ground water most likely to be affected is at a depth of approximately 50 feet and had a pre-discharge total dissolved solids concentration of approximately 670 milligrams per liter.

The original Discharge Permit was issued on February 15, 1991, and subsequently renewed on July 25, 1997, and renewed and modified on March 25, 2005. The application consists of the materials submitted by the permittee dated January 5, 2010, and materials contained in the administrative record associated with issuance of this Discharge Permit. The discharge shall be managed in accordance with all applicable requirements of the Dairy Rule (20.6.6 NMAC) and this Discharge Permit.

Issuance of this Discharge Permit does not relieve the permittee of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

The following acronyms and abbreviations may be used in this Discharge Permit:

Abbreviation	Explanation		Abbreviation	Explanation
Cl	chloride		NO_3-N	nitrate-nitrogen
gpd	gallons per day		S	Sulfur
LADS	land application data sheet(s)		SO_4	Sulfate
mg/L	milligrams per liter		TDS	total dissolved solids
NMAC	New Mexico Administrative Code		TKN	total Kjeldahl nitrogen
NMED	New Mexico Environment Department		WQA	New Mexico Water Quality Act
NMP	Nutrient management plan		WQCC	Water Quality Control Commission
NMSA	New Mexico Statutes Annotated			

II. FINDINGS

In issuing this Discharge Permit, NMED finds:

1. The permittee is discharging from a facility that meets the definition of "dairy facility" and is subject to the Dairy Rule (20.6.6 NMAC). This dairy facility meets the definition of "existing dairy facility".

2. The permittee is discharging effluent or leachate from the dairy facility that may move directly or indirectly into ground water within the meaning of Section 20.6.2.3104 NMAC.

3. The permittee is discharging effluent or leachate from the dairy facility that may move into ground water of the State of New Mexico which has an existing concentration of 10,000 milligrams per liter or less of total dissolved solids within the meaning of Subsection A of 20.6.2.3101 NMAC.

4. The discharge from the dairy facility is not subject to any of the exemptions of Section 20.6.2.3105 NMAC.

5. Data collected from on-site monitoring wells document ground water contamination attributed to one or more sources at this dairy facility. Ground water quality standards for Cl, NO_3-N and TDS have been exceeded according to the criteria of Sections 20.6.2.3101 and 20.6.2.3103 NMAC.

6. The Discharge Permit for this facility last issued on March 25, 2005 (before the effective date of the Dairy Rule of December 31, 2011) required the wastewater impoundment system to have the capacity to store the volume of wastewater discharged at the maximum daily discharge volume for a minimum of 60 days, while preserving two feet of freeboard.

7. The dairy facility was existing as of the effective date of the Dairy Rule (December 31, 2011) and measures the volume of wastewater discharged to a wastewater impoundment(s) using a totalizing flow meter installed on the discharge line from all wastewater sources to the wastewater impoundment(s).

8. As of the effective date of this Discharge Permit, the following monitoring wells are monitored pursuant to the Stage 1 Abatement Plan for this dairy facility and are not associated with the monitoring requirements of this Discharge Permit.
   a) **7A** – located northwest of the Cheyenne Dairy I calf pens.
   b) **8A** – located southwest of the Cheyenne Dairy I heifer pens.
   c) **9A** – located southeast of Land Application Field #3.
   d) **10A** – located north of Land Application Field #4.
   e) **11A** – located at the center of Land Application Field #4.
   f) **12A** – located at the southern center of Land Application Field #4.
   g) **13A** – located east, northeast of the Cheyenne Dairy III unlined runoff pond.
   h) **14A** – located east, northeast of Land Application Field #4 along Old Chisum Trail.
   i) **15A** – located east of Land Application Field #4.
   j) **16A** – located northeast of the Cheyenne Dairy II silage area.
   k) **18A**– located southeast of the formerly used wastewater impoundment for Cheyenne Dairy I.
   l) **19A** – located at the southern center of Land Application Field #4.
   m) **20A** – located east, northeast of Land Application Field #4 along Old Chisum Trail.
   n) **21A** – located east of Land Application Field #4.
   o) **22A** – located southeast of Land Application Field #4.
   p) **23A** – located east of Land Application Field #4 and MW-21A.
   q) **24A** – located southeast of Land Application Field #4 and east of MW-22A.
   r) **25A** – located southeast of Land Application Field #4 and east of MW-24A.
   s) **26A** – located northeast of Cheyenne Dairy II.
   t) **27A** – located east of Land Application Field #4.
   u) **28A** – located southeast of the intersection of Cheyenne Road and Old Chisum Lane.
   v) **29A** – located southeast of the intersection of Cheyenne Road and Old Chisum Lane.
   w) **30A** – located northeast of the Cheyenne Dairy I corrals.
   x) **31A** – located west of the North synthetically lined impoundment for storage.
   y) **33A** – located southwest of Land Application Field #4.
   z) **35A** – located southeast of Land Application Field #4 and east of MW-22A.
   aa) **36A** – located southeast of Land Application Field #4 and east of MW-22A.

9. This Discharge Permit contains requirements associated with the following potential contaminant sources as identified in the application and the administrative record as of the effective date of this Discharge Permit:

a) Wastewater Impoundments
   i. **Wastewater Settling Impoundment 1** - authorized for use by this Discharge Permit.
   ii. **Wastewater Settling Impoundment 2** - authorized for use by this Discharge Permit.
   iii. **Wastewater Storage Impoundment North** - authorized for use by this Discharge Permit.
   iv. **Wastewater Storage Impoundment South** - authorized for use by this Discharge Permit.
   v. **Former Wastewater Impoundment** - not authorized for use by this Discharge Permit; was authorized for use by the last Discharge Permit issued prior to the effective date of the Dairy Rule; subject to closure and post-closure ground water monitoring requirements. This impoundment is located south of the Cheyenne Dairy I corrals and in-between the east and west stormwater runoff impoundments.

b) Stormwater Impoundments
   i. **Stormwater Runoff Impoundment East** - authorized for use by this Discharge Permit.
   ii. **Stormwater Runoff Impoundment West** - authorized for use by this Discharge Permit.
   iii. **Stormwater Runoff Impoundment South** - authorized for use by this Discharge Permit.

c) Fields within the Land Application Area
   i. **Land Application Field #1** - authorized for use by this Discharge Permit.
   ii. **Land Application Field #2** - authorized for use by this Discharge Permit.
   iii. **Land Application Field #3** - authorized for use by this Discharge Permit.
   iv. **Land Application Field #4** - authorized for use by this Discharge Permit.

III. APPLICABLE RULES

Sections 20.6.2.3000 through 20.6.2.3114 NMAC and Part 20.6.6 NMAC (Dairy Rule) apply to discharges specific to dairy facilities and their operations.

IV. DISCHARGE PERMIT REQUIREMENTS

The permittee is authorized to discharge water contaminants pursuant to this Discharge Permit which contains requirements authorized or specified by the Dairy Rule. The permittee shall comply with the Dairy Rule and this Discharge Permit, which are enforceable by NMED. The permittee is authorized to discharge water contaminants subject to the following requirements:

AUTHORIZATION TO DISCHARGE

1. The permittee is authorized to discharge up to 180,000 gpd of wastewater from the production area. Wastewater flows from Cheyenne I Parlor to a concrete sump and from Cheyenne III Parlor to a concrete sump. Wastewater is pumped from the two sumps to a third concrete sump and is pumped through a solids screen separator into one of two synthetically lined solids settling impoundments which flow into the north and south synthetically lined wastewater impoundments for storage. Wastewater is land applied by center pivot and linear sprinkler irrigation to up to 440 acres of irrigated cropland under cultivation.

2. The permittee is authorized to use the following impoundments for the following purposes in accordance with Subsection B of 20.6.6.20 NMAC.
   a) **Wastewater Settling Impoundment 1** – authorized to receive wastewater for solids settling prior to flowing into a storage impoundment. This impoundment exists as of the effective date of this Discharge Permit and is synthetically lined. This impoundment receives wastewater discharged from the solids screen separator and discharges to Wastewater Settling Impoundment 2. This impoundment is located west of the solids screen separator. This impoundment was synthetically lined in 2005.
   b) **Wastewater Settling Impoundment 2** – authorized to receive wastewater for solids settling prior to flowing into a storage impoundment. This impoundment exists as of the effective date of this Discharge Permit and is synthetically lined. This impoundment receives wastewater discharged from Wastewater Settling Impoundment 1 and discharges to Wastewater Storage Impoundment South. This impoundment is located west of Wastewater Settling Impoundment 1. This impoundment was synthetically lined in 2005.
   c) **Wastewater Storage Impoundment South** – authorized to receive wastewater for storage. This impoundment exists as of the effective date of this Discharge Permit and is synthetically lined. This impoundment receives wastewater discharged from Wastewater Settling Impoundment 2 for storage and flows into the Wastewater Storage Impoundment North. This impoundment is located west of Wastewater Settling Impoundment 2. This impoundment was synthetically lined in 2005.
   d) **Wastewater Storage Impoundment North** – authorized to receive wastewater for storage prior to land application. This impoundment exists as of the effective date of this Discharge Permit and is synthetically lined. This impoundment receives wastewater discharged from Wastewater Storage Impoundment South for storage prior to land application. This impoundment is located north of Wastewater Storage Impoundment South. This impoundment was synthetically lined in 2005.
   e) **Stormwater Runoff Impoundment East** – authorized to collect stormwater prior to transfer into the wastewater storage impoundment system or the distribution system for land application. This impoundment exists as of the effective date of

this Discharge Permit and is unlined. This impoundment is located southeast of the Cheyenne Dairy I corrals.

f) **Stormwater Runoff Impoundment West** – authorized to collect stormwater prior to transfer into the wastewater storage impoundment system or the distribution system for land application. This impoundment exists as of the effective date of this Discharge Permit and is unlined. This impoundment is located south of the Cheyenne Dairy I heifer pens.

g) **Stormwater Runoff Impoundment South** – authorized to collect stormwater prior to transfer into the wastewater storage impoundment system. This impoundment exists as of the effective date of this Discharge Permit and is unlined. This impoundment is located east of the Cheyenne Dairy III corrals.

3. The permittee is authorized to apply wastewater and stormwater to all fields within the land application area in accordance with Subsections B, C and I of 20.6.6.21 NMAC. The land application area consists of the following fields for a total land application area of 440 acres.

a) **Land Application Field #1** – consists of 126 acres; applied by center pivot. This field was authorized by the last Discharge Permit prior to the effective date of the Dairy Rule (December 31, 2011) to receive wastewater/stormwater and has received wastewater/stormwater as of the effective date of this Discharge Permit.

b) **Land Application Field #2** – consists of 126 acres; applied by center pivot. This field was authorized by the last Discharge Permit prior to the effective date of the Dairy Rule (December 31, 2011) to receive wastewater/stormwater and has received wastewater/stormwater as of the effective date of this Discharge Permit.

c) **Land Application Field #3** – consists of 88 acres; applied by center pivot. This field was authorized by the last Discharge Permit prior to the effective date of the Dairy Rule (December 31, 2011) to receive wastewater/stormwater and has received wastewater/stormwater as of the effective date of this Discharge Permit.

d) **Land Application Field #4** – consists of 100 acres; applied by lateral sprinkler. This field was not authorized by the last Discharge Permit issued prior to the effective date of the Dairy Rule (December 31, 2011) to receive wastewater/stormwater, but has received wastewater/stormwater as of the effective date of this Discharge Permit.

DAIRY RULE TRANSITION REQUIREMENTS

4. The permittee shall have 90 days from the effective date of this Discharge Permit (**by DATE**) to submit all the necessary information to comply with Sections 20.6.6.10 through 20.6.6.13 NMAC, in accordance with Subsection D of 20.6.6.35 NMAC. The permittee shall submit the necessary information by completing the application form for Renewal and/or Modification located at the following address:

- http://www.nmenv.state.nm.us/gwb/NMED-GWQB-dairies.htm

The following sections of the application form for renewal and/or modification shall be completed, and the form shall be signed by the permittee and notarized prior to submission.

a) Introduction – *Applicant's Signature and Notary Certification only*
b) Part I.A
c) Part II.A.1
d) Part II.A.2(a) and (b)
e) Part II.B.1 through 5, and 7
f) Part II.C
g) Part II.D.3(a) and (b)
h) Part II.E. 3
i) Part II.F
j) Part IV.A
k) Part IV.B

ENGINEERING AND SURVEYING REQUIREMENTS

5. The permittee shall comply with the requirements of Section 20.6.6.17 NMAC and shall submit to NMED all information or documentation required by the applicable portions of Section 20.6.6.17 NMAC.

6. The permittee shall complete the following items and submit documentation to NMED as summarized in the following table:

Item No.	Action Required and Submittal Due to NMED	Due Date	Citation
A.	**Flow Metering Plans:** To achieve compliance with Subsection J of 20.6.6.20 NMAC, submit a description of the location and installation/construction information for a flow meter(s) to measure the following: • the volume of stormwater transferred from the East and West Stormwater Impoundments to the land application distribution system (pursuant to Subsection H of 20.6.6.21 NMAC) * If stormwater is transferred to the wastewater impoundment system and is not applied directly to the land application distribution system, then installation and use of these meters are not required.	**90 days of effective date**	20.6.6.17.C(7) NMAC

OPERATIONAL REQUIREMENTS

7. The permittee shall comply with the requirements of Sections 20.6.6.20 and 20.6.6.21 NMAC, and shall submit to NMED all information or documentation required by the applicable portions of Sections 20.6.6.20 and 20.6.6.21 NMAC.

8. The permittee shall provide written notice to NMED regarding any changes to the presence of lactating cows and/or the status of wastewater discharges at the facility in accordance with Subsection A of 20.6.6.20 NMAC (summarized in the table below).

Activity	Notification of Estimated Date	Verification of Actual Date
Removal of Lactating Cows	Not required	Within 30 days of removal
Reintroduction of Lactating Cows	Not required	Within 30 days of reintroduction
Cessation of wastewater discharge	Not required	Within 30 days of cessation of discharge
Recommencement of Discharge	Minimum 30 days prior to recommencement	Within 30 days of recommencement

9. The permittee is authorized and required to transfer stormwater collected in the unlined stormwater impoundment(s) to the wastewater impoundment(s) or the distribution system for the land application area in accordance with Subsection I of 20.6.6.20 NMAC.

10. The permittee shall install and use the following flow meter(s) in accordance with Subsections J, K, L and N of 20.6.6.20 NMAC, and Subsections G and H of 20.6.6.21 NMAC.
    a) **East Stormwater Flow Meter** – to be located on the transfer line from Stormwater Runoff Impoundment East to the land application area to measure the volume of stormwater applied from this stormwater impoundment to each field in the land application area. If stormwater is transferred to the wastewater impoundment system and is not applied directly to the land application fields, then installation and use of this meter is not required.
    b) **West Stormwater Flow Meter** – to be located on the transfer line from Stormwater Runoff Impoundment West to the land application area to measure the volume of stormwater applied from this stormwater impoundment to each field in the land application area. If stormwater is transferred to the wastewater impoundment system and is not applied directly to the land application fields, then installation and use of this meter is not required.

    Confirmation of flow meter installation shall be completed in accordance with Subsection J of 20.6.6.20 NMAC.

11. Pursuant to Subsection D of 20.6.6.35 NMAC, the permittee shall have 90 days from the effective date of this Discharge Permit (**by DATE**) to submit documentation in accordance with Subsection M of 20.6.6.20 NMAC to demonstrate that the existing flow meter(s) meets the requirements of Subsection M of 20.6.6.20 NMAC.

12. The permittee is authorized to use the following existing flow meter(s) provided that the requirements of Subsection M of 20.6.6.20 NMAC have been met.

a) **Flow Meter at Separator** – located on the discharge line from the solids screen separator to the wastewater settling impoundments to measure the volume of wastewater discharged from the production area to the wastewater impoundment system.

b) **Flow Meter to Land Application** – located on the transfer line from Wastewater Storage Impoundment North to the land application area to measure the volume of wastewater discharged from wastewater impoundment system to each field in the land application area.

13. The permittee is authorized, pursuant to Subsection S of 20.6.6.20 NMAC, to land apply manure solids and composted material to the land application area. Manure solids and composted material shall be applied in accordance with the Nutrient Management Plan (NMP) required by Subsection I of 20.6.6.21 NMAC.

14. The permittee is authorized to blend wastewater with fresh irrigation water for land application using any of the methods provided in Subsection D of 20.6.6.21 NMAC. Fresh water may be added to a wastewater impoundment prior to land application in accordance with Subsection D of 20.6.6.21 NMAC.

15. The permittee shall remove crops from the following fields within the land application area using the following methods in accordance with Subsection I and J of 20.6.6.21 NMAC. Crops may be grazed prior to and between mechanical harvests, however, nitrogen removal credit shall not be taken for grazing activities unless a grazing plan is developed and submitted in accordance with Subsections I and J of 20.6.6.21 NMAC.

a) **Land Application Field #1** – crops shall be harvested mechanically.
b) **Land Application Field #2** – crops shall be harvested mechanically.
c) **Land Application Field #3** – crops shall be harvested mechanically.
d) **Land Application Field #4** – crops shall be harvested mechanically.

The permittee shall submit an application for Discharge Permit Modification to NMED for any proposed changes to the method(s) of crop removal for any field within the land application area as required by Subsection K of 20.6.6.21 NMAC.

16. The permittee shall complete the following items and submit documentation to NMED as summarized in the following table:

Item No.	Action Required and Submittal Due to NMED	Due Date	Citation
A.	**<u>Flow Meter Installation:</u>**		
	i) Complete installation of flow meter(s).	**90 days of effective date**	20.6.6.20.J NMAC
	ii) Submit confirmation of installation.	**120 days of effective date**	

Item No.	Action Required and Submittal Due to NMED	Due Date	Citation
B.	**Scaled Map of Dairy Facility – Updates:** Following completion of any additions or changes to the dairy facility which affect the items listed in Subsection U of 20.6.6.20 NMAC, the permittee shall update and resubmit the facility map.	**Within 90 days of any addition or change.**	20.6.6.20.V NMAC
C.	**Nutrient Management Plan:** Develop and submit annual updates to the NMP.	**Annually:** May 1	20.6.6.21.I NMAC
D.	**Backflow Prevention:** i) Complete installation of backflow prevention methods or devices. ii) Submit confirmation of installation.	**90 days of effective date** **180 days of effective date**	20.6.6.21.M NMAC
E.	**Backflow Prevention by Reduced Pressure Principle Backflow Prevention Assembly – Inspection and Maintenance:** Submit copies of inspection and maintenance records and test results for each RP device, should the device be used to satisfy the requirements of Subsection M of 20.6.6.21 NMAC.	**Annually:** May 1	20.6.6.21.N NMAC

GROUND WATER MONITORING REQUIREMENTS

17. The permittee shall comply with the requirements of Section 20.6.6.23 NMAC and shall submit to NMED all information or documentation required by the applicable portions of Section 20.6.6.23 NMAC.

18. Monitoring wells shall be constructed and completed in accordance with Subsection D of 20.6.6.23 NMAC.

19. Monitoring wells shall be permanently identified in accordance with Subsection C of 20.6.6.23 NMAC.

20. Pursuant to Subsection D of 20.6.6.35 NMAC, the permittee shall have 90 days from the effective date of this Discharge Permit (**by DATE**) to submit the information required by Paragraph (6) of Subsection A of 20.6.6.23 NMAC to verify that monitoring wells in existence as of the effective date of this Discharge Permit and prior to the effective date of the Dairy Rule (December 31, 2011) are appropriate for continued use for ground water monitoring.

    The permittee is authorized to use the following monitoring well(s) provided that the requirements of Paragraph (6) of Subsection A of 20.6.6.23 NMAC are met.

a) **MW-1**, located hydrologically downgradient and southeast of the formerly used wastewater impoundment at Cheyenne Dairy I.
b) **MW-2**, hydrologically downgradient and southeast of Land Application Field #4, located along Old Chisum Trail.
c) **MW-3**, hydrologically upgradient of all contamination sources at the dairy facility and located northwest of the feed storage area of Cheyenne Dairy I.
d) **MW-4**, hydrologically downgradient and southeast of Land Application Field #1, located at the intersection of Old Chisum Trail and East Cheyenne Road.
e) **MW-6**, located hydrologically downgradient and southeast of Wastewater Storage Impoundment North.
f) **MW-7**, located hydrologically downgradient and southeast of Wastewater Settling Impoundment 2 and Wastewater Storage Impoundment South.

21. The permittee shall complete the following items and submit documentation to NMED as summarized in the following table:

Item No.	Action Required and Submittal Due to NMED	Due Date	Citation
A.	**Ground Water Monitoring – Existing Wastewater Impoundments:** Install the following monitoring wells within 75 feet hydrologically downgradient of the top inside edge of each existing wastewater impoundment: i) **MW-37**, hydrologically downgradient of Wastewater Settling Impoundment 1.	**120 days of effective date**	20.6.6.23.A(1) NMAC
B.	**Ground Water Monitoring – Existing Stormwater Impoundments:** Install the following monitoring wells within 75 feet hydrologically downgradient of the top inside edge of each existing stormwater impoundment: i) **MW-38**, hydrologically downgradient of Stormwater Runoff Impoundment East ii) **MW-39**, hydrologically downgradient of Stormwater Runoff Impoundment West. iii) **MW-40**, hydrologically downgradient of Stormwater Runoff Impoundment North.	**120 days of effective date**	20.6.6.23.A(3) NMAC
C.	**Ground Water Monitoring – Existing Land Application Area:** Install the following monitoring wells within 50 feet hydrologically downgradient of the downgradient boundary of existing fields within the land application area: i) **MW-41**, hydrologically downgradient of Land Application Field #2. ii) **MW-42**, hydrologically downgradient of Land Application Field #3.	**120 days of effective date**	20.6.6.23.A(4) (b) NMAC
D.	**Ground Water Sampling and Reporting – Routine:** Collect and analyze ground water samples quarterly from all	**Quarterly**	20.6.6.23.G

Item No.	Action Required and Submittal Due to NMED	Due Date	Citation
	monitoring wells identified in this Discharge Permit. Sampling shall be performed and results submitted in accordance with Subsection F of 20.6.6.23 NMAC.		NMAC
E.	**Ground Water Sampling – New Monitoring Wells:** Collect ground water samples from monitoring wells required to be installed *within 120 days of the effective date of the Discharge Permit*. Sampling shall be performed in accordance with Subsection F of 20.6.6.23 NMAC using the monitoring wells required to be installed in the following locations: i) **MW-37**, hydrologically downgradient of Wastewater Settling Impoundment 1. ii) **MW-38**, hydrologically downgradient of Stormwater Runoff Impoundment East. iii) **MW-39**, hydrologically downgradient of Stormwater Runoff Impoundment West. iv) **MW-40**, hydrologically downgradient of Stormwater Runoff Impoundment North. v) **MW-41**, hydrologically downgradient of Land Application Field #2. vi) **MW-42**, hydrologically downgradient of Land Application Field #3.	**150 days of effective date**	20.6.6.23.H NMAC
F.	**Monitoring Well Survey and Ground Water Flow Determination:** Survey monitoring wells required to be installed *within 120 days of the effective date of the Discharge Permit* to a USGS benchmark.	**150 days of effective date**	20.6.6.23.I NMAC
G.	**Monitoring Well Completion Report:** Submit a monitoring well completion report for monitoring wells required to be installed *within 120 days of the effective date of the Discharge Permit*. The report shall include information from all monitoring wells.	**180 days of effective date**	20.6.6.23.J NMAC
H.	**Ground Water Elevation Contour Maps:** Develop and submit ground water elevation contour maps on a quarterly basis using data collected from all monitoring wells used for ground water monitoring at the dairy facility.	**Quarterly**	20.6.6.23.L NMAC

MONITORING REQUIREMENTS

22. The permittee shall comply with the requirements of Sections 20.6.6.24 and 20.6.6.25 NMAC, and shall submit to NMED all information or documentation required by the applicable portions of Sections 20.6.6.24 and 20.6.6.25 NMAC.

23. The permittee shall submit monitoring reports to NMED on a quarterly schedule that contain monitoring data and information collected pursuant to the Dairy Rule and submitted in accordance with Subsection A of 20.6.6.24 NMAC.

Quarterly monitoring reports shall be submitted according to the following schedule:

- January 1 through March 31 (first quarter) – report due by **May 1**
- April 1 through June 30 (second quarter) – report due by **August 1**
- July 1 through September 30 (third quarter) – report due by **November 1**
- October 1 through December 31 (fourth quarter) – report due by **February 1**

24. The permittee shall perform the following monitoring and submit to NMED the required documentation in monitoring reports as summarized in the following table:

Item No.	Action Required and Submittal Due to NMED	Due Date	Citation
A.	**Wastewater Volume Measurement and Reporting:** Using a flow meter(s) installed on the discharge line(s), measure the volume of all wastewater discharged to the impoundment(s) authorized to contain wastewater. Submit the information.	**Quarterly**	20.6.6.24.C NMAC
B.	**Stormwater Sampling and Reporting:** Collect and analyze stormwater samples on a quarterly basis from each stormwater impoundment and submit results.	**Quarterly**	20.6.6.24.D NMAC
C.	**Flow Meter Field Calibration:** Perform flow meter field calibrations annually and submit a flow meter field calibration report.	**Annually:** May 1	20.6.6.24.E NMAC
D.	**Volume of Wastewater and Wastewater/Stormwater Land Applied – Measurement and Reporting:** Measure the volume of all wastewater discharges to each field within the land application area using a flow meter(s) and submit the information.	**Quarterly**	20.6.6.25.A NMAC
E.	**Volume of Stormwater Land Applied – Measurement and Reporting:** Measure the volume of all stormwater applications to each field within the land application area using a flow meter(s) and submit the information.	**Quarterly**	20.6.6.25.B NMAC
F.	**Wastewater to be Land Applied – Sampling and Reporting:** The permittee shall collect a representative wastewater sample (consisting of eight subsamples) from each wastewater or combination wastewater/stormwater impoundment. Analyze each representative wastewater sample on a quarterly basis and submit results.	**Quarterly**	20.6.6.25.C NMAC

Item No.	Action Required and Submittal Due to NMED	Due Date	Citation
G.	**Manure Solids – Nitrogen Content:** Should a permittee choose to use actual nitrogen content values of on-site manure solids for the purpose of applying to the land application area, the permittee shall collect and analyze samples annually, and submit results.	**Quarterly**	20.6.6.25.D NMAC
H.	**Irrigation Water – Sampling, Volume Applied and Reporting:** Collect and analyze fresh irrigation water samples on an annual basis from each irrigation well associated with the land application area. Estimate the annual volume of irrigation water applied to each field from each well. Submit estimated volumes and analytical results.	**Annually:** May 1	20.6.6.25.E NMAC
I.	**Fertilizer Application Reporting:** Maintain and submit a log of all additional fertilizer applied to each field within the land application area.	**Quarterly**	20.6.6.25.F NMAC
J.	**Land Application Data Sheets:** Complete and submit land application data sheets (LADS) for each field within the land application area.	**Quarterly**	20.6.6.25.G NMAC
K.	**Crop Yield Documentation:** Submit crop yield documentation and plant and harvest dates of each crop grown.	**Quarterly**	20.6.6.25.H NMAC
L.	**Nitrogen Concentration of Harvested Crop:** Determine the percent total nitrogen and dry matter of each harvested crop and submit results.	**Quarterly**	20.6.6.25.I NMAC
M.	**Nitrogen Removal Summary of Harvested Crop:** Develop and submit a nitrogen removal summary for each crop grown on each field within the land application area.	**Quarterly**	20.6.6.25.J NMAC
N.	**Soil Sampling – Initial Event in a Discharge Permit Term:** Collect and analyze initial soil samples from each field in the land application area for the first soil sampling event during the first year following the effective date of this Discharge Permit. Submit the results.	**May 1, 2014**	20.6.6.25.K NMAC
O.	**Soil Sampling – Routine:** Collect and analyze routine soil samples annually from each field in the land application area beginning the year following the initial sampling event. Submit the results.	**Annually:** May 1	20.6.6.25.L NMAC

CONTINGENCY REQUIREMENTS

25. The permittee shall comply with the requirements of Section 20.6.6.27 NMAC and shall submit to NMED all information or documentation required by the applicable portions of Section 20.6.6.27 NMAC.

CLOSURE REQUIREMENTS

26. The permittee shall comply with the requirements of Section 20.6.6.30 NMAC and shall submit to NMED all information or documentation required by the applicable portions of Section 20.6.6.30 NMAC.

27. Within 120 days of the effective date of the Discharge Permit (**by DATE**), the permittee shall abandon the following well previously used for monitoring in accordance with Subsection C of 20.6.6.30 NMAC.
    a) **MW-5**, hydrologically downgradient and southeast of the formerly used wastewater impoundment at Cheyenne Dairy III, located in the middle of the northern corrals at Cheyenne Dairy III.

    The well abandonment report shall be submitted to NMED within 60 days of completion of well plugging activities.

28. Within two years of the effective date of the Discharge Permit (**by DATE**), the permittee shall complete closure of the following impoundment in accordance with Subparagraph (C) of Paragraph (2) of Subsection A of 20.6.6.30 NMAC.
    a) **Former Wastewater Impoundment** – located south of the Cheyenne Dairy I corrals and in-between the east and west stormwater runoff impoundments.

GENERAL REQUIREMENTS

29. The permittee shall operate in a manner such that standards and requirements of Sections 20.6.2.3101 and 20.6.2.3103 NMAC are not violated.

30. The permittee shall retain required records for a minimum period of 10 years from the date of sample collection, measurement, report or application in accordance with Section 20.6.6.33 NMAC.

31. Transfer of a Discharge Permit for a dairy facility shall be completed in accordance with Section 20.6.6.34 NMAC.

32. To renew this Discharge Permit, the permittee shall submit an application for renewal, renewal and modification, or renewal for closure at least one year prior to the expiration date of the Discharge Permit in accordance with Section 20.6.6.10 NMAC.

33. In accordance with Subsection A of 20.6.6.9 NMAC, the permittee shall remit a permit fee payment equal to one-tenth of the applicable permit fee from Table 1 of Section 20.6.2.3114 NMAC on the first occurrence of August 1 after the effective date of the Discharge Permit, and annually thereafter until expiration or termination of the Discharge Permit.

V. ADDITIONAL CONDITIONS

In addition to the requirements of 20.6.6 NMAC, the permittee shall comply with the following conditions as authorized by Subsection H of 20.6.6.10 NMAC pursuant to Section 74-6-5 WQA. A hearing may be requested on additional conditions in accordance with Section 20.6.6.15 NMAC.

1. This Discharge Permit does not contain additional conditions.

VI. PERMIT ISSUANCE

Pursuant to WQA 74-6-5(I), the term of this Discharge Permit shall be for the fixed term of five years from the effective date of the Discharge Permit.

Issued by: New Mexico Environment Department

Effective Date: **[DATE]**
Expiration Date: **[DATE]**

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JERRY SCHOEPPNER
Chief, Ground Water Quality Bureau
New Mexico Environment Department